## CLAIM AMENDMENTS

Claim 1 (currently amended): A method for performing high capacity conversion of Asynchronous Transfer Mode (ATM) formatted cells received from an ATM packet network to a Time Division Multiplexed (TDM) format for delivery to a circuit switched network, said ATM cells including one or more of ATM Adaptation Layer (AAL) 1/2 bearer cells, AAL 3/4 data cells, AAL5 signaling cells and raw AAL0 cells, comprising the steps of:

receiving a stream of ATM cells from said ATM packet network;

translating cell headers of said ATM cells according to a predetermined translation scheme based on cell payload type, said translated cell headers being applied to said ATM cells as ATM cell headers and containing fields that determine how said ATM cells will be processed;

forwarding said ATM cells with said translated ATM cell headers applied thereto; and

processing said ATM cells according to said translated cell headers such that said ATM cells are handled according to their payload type.

Claim 2 (original): A method in accordance with Claim 1 wherein said receiving step includes receiving said ATM cells at an optical fiber interface.

Claim 3 (original): A method in accordance with Claim 1 wherein said translating step includes mapping untranslated cell headers of said ATM cells to said translated cell headers.

Claim 4 (original): A method in accordance with Claim 3 wherein said mapping step includes using a content addressable memory table to match said untranslated cell headers to said translated cell headers.

Claim 5 (original): A method in accordance with Claim 4 wherein said matching step includes performing lookups in said content addressable memory table based on said untranslated cell headers to identify corresponding address values.

Claim 6 (original): A method in accordance with Claim 5 wherein said matching step further includes using said address values to locate corresponding translated cell headers in a lookup table.

Claim 7 (original): A method in accordance with Claim 6 wherein said mapping step further includes applying said translated cell headers to said ATM cells and forwarding said cells for cell processing.

Claim 8 (original): A method in accordance with Claim 1 wherein said cell processing includes using plural cell processing devices to perform different kinds of cell processing according to said translated cell headers.

Claim 9 (original): A method in accordance with Claim 8 wherein said cell processing includes processing Operations And Maintenance (OAM) cells according to a first cell processing strategy and processing bearer and data traffic cells according to a second processing strategy.

Claim 10 (original): A method in accordance with Claim 9 wherein said cell processing further includes processing signaling cells according to a third cell processing strategy.

Claim 11 (currently amended): A Packet Voice Gateway system adapted to perform high capacity conversion of Asynchronous Transfer Mode (ATM) formatted cells received from an ATM packet network to a Time Division Multiplexed (TDM) format for delivery to a circuit switched network, said ATM cells including one or more of ATM Adaptation Layer (AAL) 1/2 bearer cells, AAL 3/4 data cells, AAL5 signaling cells and raw AAL0 cells, comprising:

an interface configured to receive a stream of ATM cells from said ATM packet network;

a translator configured to translate cell headers of said ATM cells according to a predetermined translation scheme based on cell payload type, said translated cell headers being applied to said ATM cells as ATM cell headers and containing fields that determine how said ATM cells will be processed;

said translator being further configured to forward said ATM cells with said translated ATM cell headers applied thereto; and

one more cell processors configured to process said ATM cells according to said translated cell headers such that said ATM cells are handled according to their payload type.

12. A system in accordance with Claim 11 wherein said interface includes an optical fiber interface.

13. A system in accordance with Claim 11 wherein said translator includes a mapper for mapping untranslated cell headers of said ATM cells to said translated cell headers.

14. A system in accordance with Claim 13 wherein said mapper includes a content addressable memory table to match said untranslated cell headers to said translated cell headers.

15. A system in accordance with Claim 14 wherein said mapper is adapted to perform lookups in said content addressable memory table based on said untranslated cell headers to identify corresponding address values.

16. A system in accordance with Claim 15 wherein said mapper further includes a lookup table containing translated cell headers and which is indexed by said address values identified in said content addressable memory table.

17. A system in accordance with Claim 16 wherein said mapper further includes a cell header replacement circuit adapted to apply said translated cell headers to said ATM cells and forward said cells for cell processing.

18. A system in accordance with Claim 11 wherein said cell processing includes using plural cell processing devices to perform different kinds of cell processing according to said translated cell headers.

19. A system in accordance with Claim 18 wherein said cell processors include an Operations And Maintenance (OAM) processor adapted to process OAM cells according to a

first cell processing strategy and a Segmentation And Reasssembly (SAR) processor adapted to process bearer and data traffic cells according to a second processing strategy.

20. A system in accordance with Claim 19 wherein said cell processors further include a signaling SAR processor adapted to process signaling cells according to a third cell processing strategy.

21. A Packet Voice Gateway system adapted to perform high capacity conversion of Asynchronous Transfer Mode (ATM) formatted cells received from an ATM packet network to a Time Division Multiplexed (TDM) format for delivery to a circuit switched network, said ATM cells including one or more of ATM Adaptation Layer (AAL) 1/2 bearer cells, AAL 3/4 data cells, AAL5 signaling cells and raw AAL0 cells, comprising:

an optical transceiver adapted to receive a stream of synchronous optical network encoded ATM cells from said ATM packet network;

a synchronous optical network framer/deframer;

an ATM cell header translator/cell router comprising a Content Addressable Memory (CAM) and a Random Access Memory (RAM) lookup table adapted to translate cell headers of said ATM cells according to a predetermined translation scheme, said CAM being provisioned with plural memory locations each containing ATM channel information for an ATM cell being received at said transceiver and being further associated with an address value, each said address value of said CAM representing a memory location in said RAM lookup table containing a translated cell header, said cell header translator/cell router being further adapted to replace untranslated cell headers of said ATM cells received at said optical transceiver with translated cell headers determined from RAM lookup table, and to route said translated ATM cells for cell processing;

an Operations And Maintenance (OAM) cell processor adapted to process first OAM ATM cells having first translated cell header values;

a board processor adapted to process second OAM ATM cells having second translated cell header values;

a multiplexer/demultiplexer adapted to process AAL 1/2 and AAL 3/4 ATM cells and to route said cells to output ports according to third translated cell header values;

plural Segmentation And Reassembly (SAR) processors, each SAR processor being adapted to receive AAL 1/2 and AAL 3/4 ATM cells received from one of said multiplexer/demultiplexer output ports, to reassemble said cells into a format suitable for Time Division Multiplexing (TDM) transmission, and to route said reassembled cells to output ports according to fourth translated cell header values;

a Time Slot Interchange (TSI) interface adapted to receive said reassembled cells from said SAR processor output ports and to format them for TDM transmission; and

a TDM bus interface adapted to transmit said reassembled cells in TDM format to said circuit switched network.

22. A system in accordance with Claim 21 wherein said first OAM ATM cells includes Seg. and End F4 (VP level cell flow) OAM cells and Seg. and End F5 (VC level) OAM cells.

23. A system in accordance with Claim 21 wherein said second OAM ATM cells include unhandled F4 OAM cells and unhandled F5 OAM cells.

24. A system in accordance with Claim 21 wherein said second OAM ATM cells include signaling cells received on a hairpinning channel from a Control Gateway via said ATM network.

25. A system in accordance 21 further including a second multiplexer/demultiplexer located between said cell header translator/cell router and said OAM processor, and said second multiplexer/demultiplexer being adapted to process AAL 5 cells having fifth translated cell header values, an AAL 5 SAR adapted to receive said AAL 5 cells from said second multiplexer/demultiplexer and forward them to an AAL 5 signaling stack.